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Space Administration

**John C. Stennis Space Center**  
Stennis Space Center, MS  
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**SPR 8730.1 Rev. B**  
**May 2011**

## **COMPLIANCE IS MANDATORY**

### **John C. Stennis Space Center Control of Nonconforming Product**

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## Document History Log

Status/Change/ Revision	Change Date	Originator/Phone	Description
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Rev. A	May 22, 2009	Ralph Gonzalez / 228-688-2101	<ul style="list-style-type: none"> <li>Changed reference for SSC-STD-99-021 to SSTD-8070-0008-CONFIG</li> <li>Added NASA MRB membership, Para. 4.4c.</li> <li>Updated references to E&amp;TD</li> <li>Added clarification to Para. 2.4 (b &amp; c), 2.5, 3.2 (a), 4.1 (a) and 4.4 (a).</li> <li>Updated Para. 2.2 – areas of responsibility.</li> </ul>
Rev. B	April 21, 2011	Ralph Gonzalez / 228-688-2101	<ul style="list-style-type: none"> <li>Added reference to NASA MRB SPR 8730.5. Added para. 4.4.</li> <li>Updated SMA acronym</li> </ul>

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## PREFACE

### P.1 PURPOSE

This Stennis Procedural Requirement (SPR) specifies the requirements for documentation and disposition of products at SSC which fail to meet drawing, specification, or any other mandated set of requirements. This SPR is the governing document for managing the activities related to nonconforming products at NASA Stennis Space Center (SSC).

### P.2 APPLICABILITY

- a. This directive is applicable to all NASA personnel at SSC.
- b. This directive is applicable to NASA contractors at SSC to the extent specified in their contracts.
- c. This SPR is applicable to all products that are designed, fabricated, manufactured, processed, tested or installed at SSC under control of NASA and their respective contractors.

### P.3 AUTHORITY

- a. NPD 1280.1, NASA Management System Policy.
- b. NPD 8700.1, NASA Policy for Safety and Mission Success.
- c. NPD 8730.5, NASA Quality Assurance Program Policy.

### P.4 APPLICABLE DOCUMENTS

All citations are assumed to be the latest version unless otherwise specified.

- a. NPR 1441.1, NASA Records Retention Schedules
- b. SPR 1280.1, Stennis Management System Requirements.
- c. SPR 1440.1, Records Management Program Requirements
- d. SPR 8730.5, SSC Material Review Board Procedural Requirements
- e. SCWI-8730-0002, Corrective Action, Preventive Action and Improvement.
- f. SOI-8080-0022, Engineering and Test Directorate (E&TD) Control of Customer Property.
- g. SOI-8080-0027, Engineering and Test Directorate Operations Work Control.
- h. SST-D-8070-0008-CONFIG, Discrepancy and Correction Report.
- i. SST-D-8070-0007-CONFIG, Standard for Variance and Alternate Standard Requests.

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## P.5 MEASUREMENT/VERIFICATION

Compliance with this procedure will be monitored through the Stennis Space Center Management System (SMS) and Office of Safety and Mission Assurance (SMA) by objective evidence, including NASA and contractor work authorizing documents, nonconformance documents and variances.

## P.6 CANCELLATION

SPR 8730.1, Rev. A, dated May 29, 2009



Patrick Scheuermann  
Director

## DISTRIBUTION

Approved for public release via NODIS and TechDoc; distribution is unlimited.

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## CHAPTER 1. ROLES AND RESPONSIBILITIES

### 1.1 NASA Safety and Mission Assurance Manager

The NASA Safety and Mission Assurance Manager:

- a. Approves/disapproves contractor Material Review Board (MRB) membership. (See Appendix A for “MRB” definition).
- b. Assures that clearly defined processes and procedures are in effect to ensure that nonconformances are properly documented and dispositioned. (See Appendix A for “Nonconformance” definition).

### 1.2 Management System Representative (MSR)

The MSR:

- a. Identifies nonconformances that are systemic in nature and implements Corrective Action in accordance with SCWI-8730-0002, Corrective Action, Preventive Action and Improvement.
- b. Performs audits of nonconformances on a periodic basis to ensure nonconformances are minimized and prevented.

### 1.3 Contractor Material Review Board (MRB) Chairman (excluding Hardware Assurance Testing Contract)

The Contractor MRB Chair:

- a. Develops, maintains, and provides a list of operations personnel authorized to sign MRB dispositions to the Contractor Safety and Mission Assurance Manager.
- b. Reports all recurring or systemic nonconformances to the NASA MSR for input into the Corrective/Preventive Action and Improvement Program in accordance with SCWI-8730-0002, Corrective Action, Preventive Action and Improvement.

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#### **1.4 Contractor Safety and Quality Assurance Manager (excluding Hardware Assurance Testing Contract)**

The Contractor Safety and Quality Assurance Manager:

- a. Implements internal procedures for controlling nonconformances in accordance with SOI-8080-0027, Engineering and Test Directorate Operations Work Control and SSTD-8070-0008-CONFIG, Discrepancy and Correction Report.
- b. Generates and maintains a master list of all SSC personnel authorized to sign MRB dispositions, distributes copies of the master list, and ensures that a copy of the authorized personnel list is provided to the NASA Safety and Mission Assurance Manager.
- c. Develops and maintains quality records for the control of nonconforming product in accordance with SPR-1440.1, Records Management Program Requirements and internal procedures.
- d. Ensures that a designated area is identified and maintained for the control and segregation of nonconforming articles and material. Refer to Chapter 2.4.
- e. Reports all recurring or systemic nonconformances to the NASA MSR for input into the Corrective/Preventive Action and Improvement Program in accordance with SCWI-8730-0002, Corrective Action, Preventive Action and Improvement.

#### **1.5 Contractor Safety and Quality Assurance Manager - Hardware Assurance Testing Contract (HATC)**

The HATC Safety and Quality Assurance Manager implements internal procedures for controlling nonconformances in accordance with programmatic requirements along with AS9100, Quality Management Systems, Aerospace Requirements.

#### **1.6 All Personnel**

All personnel, regardless of position of responsibility, are required to ensure that nonconformances are documented. If unable to personally document the nonconformance, personnel should ensure that the applicable information is disseminated to the appropriate individuals for documentation.



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## CHAPTER 2. NONCONFORMANCE DOCUMENTATION

### 2.0 General

- a. When a product is found to be nonconforming, inadvertent use of that product shall be prevented.
- b. Procedures shall be established and maintained to determine which products are nonconforming and to clearly document the nonconformances.
- c. Procedures shall define the process for disposition, and subsequent re-inspection, of those nonconforming products.
- d. Nonconformance processing shall be in accordance with flowcharts listed in Appendix B, Processing of Nonconformances.

### 2.1 Determination of Violated Document

The requirements for a product are typically specified in specifications and drawings. Additional requirements may also be levied by engineering orders, work authorizing documents, vendor specifications and drawings, EMI packages, or other technical requirement documents.

- a. When a product does not meet specified requirements, it shall be immediately documented in the applicable nonconformance system.
- b. The nonconformance shall be clearly and concisely written and include all pertinent details.

### 2.2 Nonconformance Systems

- a. Facilities and products which fall under the control of the Engineering & Test Directorate (E&TD) and the Test Operations Contract (TOC) shall document nonconformances per SOI-8080-0027, E&TD Operations Work Control.
- b. Facility Operating Services Contract (FOSC) operated / maintained facilities and products, which fall under the control of the Center Operations Directorate, shall document nonconformances per SSTD-8070-0008-CONFIG, Discrepancy and Correction Report.
- c. Facilities and products which fall under the control of the Hardware Assurance Testing contract shall be documented per the requirements of AS9100, Quality Management Systems, Aerospace, Requirements.

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### 2.3 Notification of Nonconformance

After the nonconformance has been documented in the applicable system, designated personnel who are responsible for disposition shall be notified using the most efficient means available to ensure a timely and cost effective disposition and to prevent unintended use of nonconforming products.

### 2.4 Segregation of Nonconforming Products

- a. When a product is discovered to be nonconforming, it shall be conspicuously marked or tagged (or otherwise identified if marking or tagging is inappropriate).
- b. The responsible organization shall maintain complete control over the nonconforming product to preclude its unauthorized use until appropriate disposition is complete.
- c. Nonconforming products that are not currently in use or installed in a component, facility or system shall be stored in a protected holding area. This area, as designated by the responsible organization, shall be utilized to prevent unauthorized removal of nonconforming products.

### 2.5 Control of Records

All records of the nonconformance including MRB actions, excluding those nonconformances generated under the Hardware Assurance Testing contract, shall be maintained per the requirements of NPR 1441.1, NASA Records Retention Schedules and SPR 1440.1, Records Management Program Requirements.

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## CHAPTER 3. NONCONFORMANCE DISPOSITION

### 3.1 Disposition Types

The disposition that addresses the nonconformance shall be classified as either a partial or a final disposition.

#### 3.1.1 Partial Disposition

The process of dispositioning as a nonconformance may require one or more stages, known as partial dispositions. Partial dispositions may be used to acquire additional information, perform rework or repair, defer rework or repair of product to a later date, document Material Review Board actions and requirements, or perform any other interim action leading to the final nonconformance resolution.

#### 3.1.2 Final Dispositions

If only one disposition is needed, or after the partial disposition stages have been satisfied, a final disposition shall be utilized. This disposition, after completion, shall have fully addressed the nonconforming product.

### 3.2 Preliminary Review / Evaluation

a. A preliminary review, performed by the responsible organization, shall be completed for the nonconforming product to determine if it should be:

- Eliminated by rework
- Repaired per MRB approved Standard Repair Procedure (SRP)
- Returned to the vendor/supplier
- Removed and replaced.

The preliminary review dispositions noted above will result in an authorized disposition of the nonconformance without submittal to the MRB. (See Appendix A for “Preliminary Review”, “Standard Repair Procedure” and “Rework” definitions).

b. All nonconforming products not addressed at the preliminary review shall be submitted to the MRB, which shall be invoked as noted in Chapter 4.

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### 3.3 Minimum Requirements for Disposition

- a. When the nonconformance has been corrected, the product shall be re-verified or re-inspected to ensure that it now conforms to the original specified requirements.
- b. When the nonconforming product has been discovered after delivery or while in use, the disposition shall take into consideration the effects or potential effects of the nonconformance.
- c. When a nonconforming product has been dispositioned to scrap, it shall be conspicuously marked and controlled until it can be physically scrapped and made unusable.
- d. The personnel responsible for the nonconforming product shall be competent to evaluate the disposition in terms of its effect on safety, hardware configuration, dependability and performance at a minimum.

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## CHAPTER 4. MATERIAL REVIEW BOARD (MRB)

### 4.1 MRB Determination

- a. When a nonconformance cannot be eliminated by the preliminary review process, it shall be addressed by the contractor MRB.
- b. The MRB shall classify the disposition and determine the proper course of action as defined in the following paragraph.
- c. When the nonconformance has been assessed as requiring MRB action, the MRB shall be notified using the most efficient means available.

### 4.2 MRB Disposition Classifications

- a. Repair: Action on a nonconforming product to make it acceptable for the intended use, although it does not meet the original specified requirements. Repair includes returning to a vendor for continuation or completion of specified requirements. The purpose of the repair is to reduce the effect of the nonconformance. Repair is distinguished from rework in that the product after repair still does not entirely conform to the applicable drawing, specification or other technical requirement. Note: Standard Repair Procedures, which require approval by the MRB prior to initial use, can be used without further MRB action.
- b. Scrap: A nonconforming product that is not usable for its intended purpose and which cannot be economically reworked or cannot be repaired in an acceptable manner.
- c. Use As Is: A nonconforming product which, in its present state, is considered capable of performing its original design function without limitations.
- d. Restricted Use: Authorizes restricted, limited or temporary use of a nonconforming product in its current state due to time, financial or test constraints, further engineering evaluation, or unavailability of replacement hardware.
- e. Repair – Restricted Use: Authorizes restricted, limited or temporary use of a nonconforming product after repair due to time, financial or test constraints, further engineering evaluation, or unavailability of replacement hardware.

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#### 4.3 MRB Disposition Rationale

- a. All MRB dispositions shall be accompanied with a thorough rationale that includes the appropriate level of engineering evaluation.
- b. All information used for the supporting rationale shall be a permanent attachment to the nonconformance report.

#### 4.4 MRB Membership

- a. The contractor Material Review Board, which consists of personnel from contractor Operations, Engineering and SMA disciplines, shall address nonconforming products that cannot be returned to their original specified requirements.
- b. In addition to the contractor MRB membership, which is maintained by the Contractor SMA Manager, the MRB shall be supported by appropriate NASA engineering and operations personnel.
- c. NASA SMA concurrence shall be required on all MRB dispositions prior to implementation. All personnel within NASA SMA, QA20, are authorized to sign/concur with MRB dispositions.

#### 4.5 NASA SSC - MRB

- a. When a nonconformance is being processed during a contractor MRB, the Chair of the respective contractor MRB, and the NASA Quality member of the contractor MRB shall assess whether a NASA MRB review is appropriate. The criteria for submission to the NASA MRB and the resultant process are dictated in SPR 8730.5, NASA SSC Material Review Board Procedural Requirements.

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## APPENDIX A – ACRONYMS AND DEFINITIONS

### A.1 Acronyms

EMI	Engineering Modification Instruction
E&TD	Engineering and Test Directorate
FOSC	Facility Operating Services Contract
HATC	Hardware Assurance Testing Contract
MRB	Material Review Board
MSR	Management System Representative
NPD	NASA Policy Directive
NPR	NASA Procedural Requirements
SCWI	Stennis Common Work Instruction
SOI	Stennis Organization Instruction
SMA	Safety and Mission Assurance
SMS	Stennis Management System
SPR	Stennis Procedural Requirements
SRP	Standard Repair Procedure
SSC	Stennis Space Center
STD/SSTD	Stennis Standard
TOC	Test Operations Contract

### A.2 Definitions

**Material Review Board (MRB)** – A board, which consists of contractor personnel from Operations, Engineering and SMA disciplines, that is responsible to address nonconforming products that cannot be returned to their original specified requirements.

**Nonconformance** - Non-fulfillment of a specified requirement that has been established by specifications, drawings, standards, procedures, or other technical requirements.

**Preliminary Review** - An evaluation to determine the disposition of the nonconformance after its initial discovery and prior to submittal to the MRB. Preliminary review may result in an authorized disposition of the nonconformance with referral to the MRB.

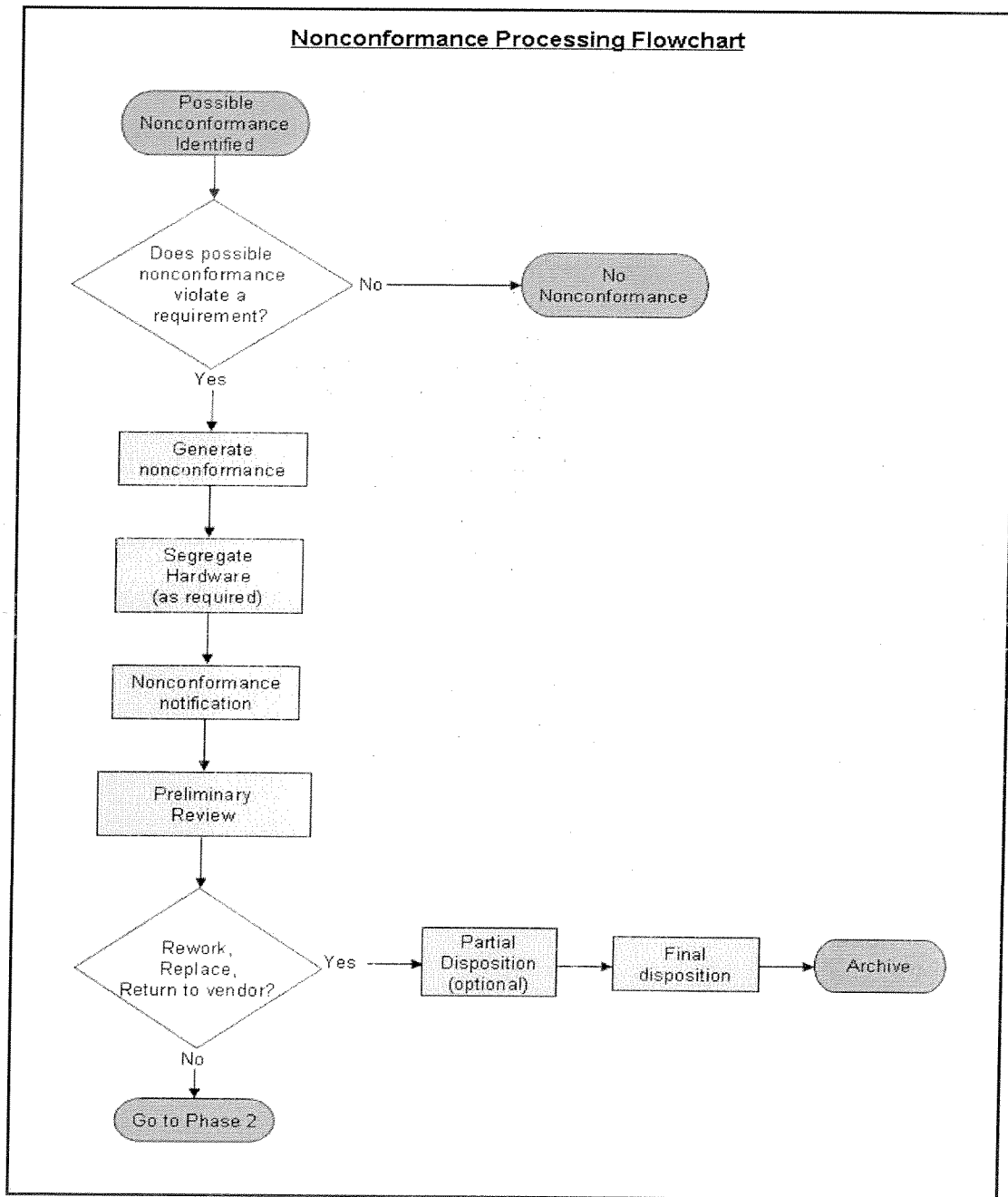
**Rework** - Action taken on a nonconforming product to make it conform to the original specified requirements.

**Standard Repair Procedure (SRP)** - A documented technique for repair of a type of nonconformance which has been demonstrated to be an adequate and cost effective method for repair. SRPs are developed by the contractor and are reviewed and approved by the MRB and are approved for recurrent use under defined conditions.

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## APPENDIX B – PROCESSING OF NONCONFORMANCES

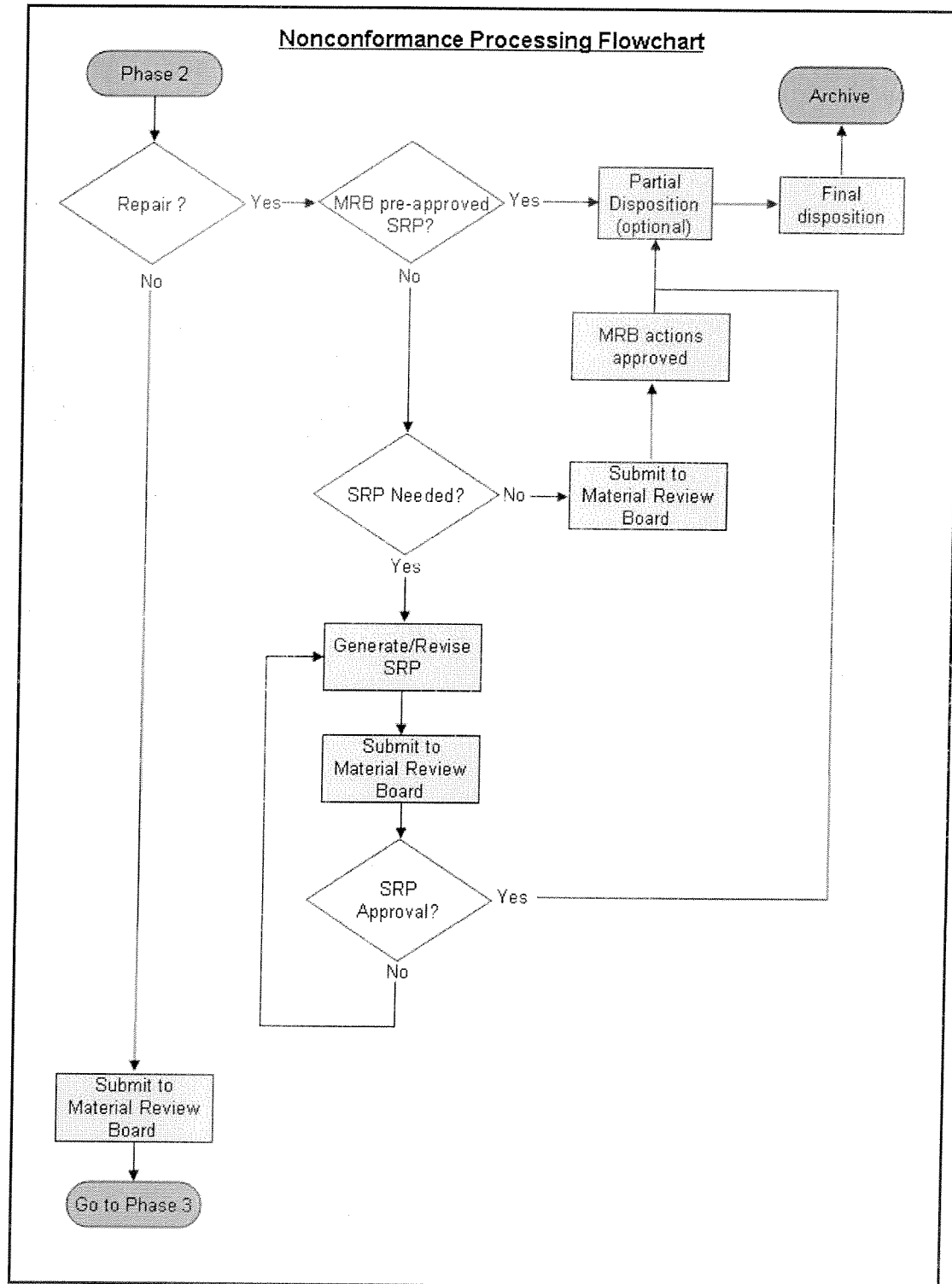
### Nonconformance Processing Flowchart





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**Nonconformance Processing Flowchart**

